

Department of Energy

§ 430.22

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 430.2, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and on GPO Access.

EFFECTIVE DATE NOTE: At 71 FR 71365, Dec. 8, 2006, § 430.2 was amended by adding to the definition of “basic model” paragraphs (21) through (26), revising the definition of “covered product” and “dehumidifier.”, and adding in alphabetical order the definition of “Battery charger,” “External power supply,” and “Pin-based”, effective Jan. 8, 2007. For the convenience of the user, the added text is set forth as follows:

§ 430.2 Definitions.

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Basic model * * *

(21) With respect to ceiling fans, which have electrical characteristics that are essentially identical, and which do not have any differing physical or functional characteristics that affect energy consumption.

(22) With respect to ceiling fan light kits, which have electrical characteristics that are essentially identical, and which do not have any differing physical or functional characteristics that affect energy consumption.

(23) With respect to medium base compact fluorescent lamps, which have electrical characteristics that are essentially identical, and which do not have any differing physical or functional characteristics that affect energy consumption.

(24) With respect to dehumidifiers, which have electrical characteristics that are essentially identical, and which do not have any differing physical or functional characteristics that affect energy consumption.

(25) With respect to battery chargers, which have electrical characteristics that are essentially identical, and which do not have any differing physical or functional characteristics that affect energy consumption.

(26) With respect to external power supplies, which have electrical characteristics that are essentially identical, and which do not have any differing physical or functional characteristics that affect energy consumption.

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Battery charger means a device that charges batteries for consumer products, including battery chargers embedded in other consumer products.

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Covered product means a consumer product:
(1) Of a type specified in section 322 of the Act, or

(2) That is a ceiling fan, ceiling fan light kit, medium base compact fluorescent lamp, dehumidifier, battery charger, external power supply, or torchiere.

Dehumidifier means a self-contained, electrically operated, and mechanically refrigerated encased assembly consisting of—

(1) A refrigerated surface (evaporator) that condenses moisture from the atmosphere;

(2) A refrigerating system, including an electric motor;

(3) An air-circulating fan; and

(4) Means for collecting or disposing of the condensate.

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External power supply means an external power supply circuit that is used to convert household electric current into DC current or lower-voltage AC current to operate a consumer product.

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Pin-based means (1) the base of a fluorescent lamp, that is not integrally ballasted and that has a plug-in lamp base, including multi-tube, multibend, spiral, and circline types, or (2) a socket that holds such a lamp.

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Subpart B—Test Procedures

§ 430.21 Purpose and scope.

This subpart contains test procedures required to be prescribed by DOE pursuant to section 323 of the Act.

§ 430.22 Reference Sources.

(a) *Materials incorporated by reference*—(1) *General*. The following standards which are not otherwise set forth in Part 430 are incorporated by reference and made a part of Part 430. The standards listed in this section have been approved for incorporation by reference by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. The specified versions of the standards are incorporated, and any subsequent amendment to a standard by the standard-setting organization will not affect the DOE test procedures unless and until those test procedures are amended by DOE.

(2) *Availability of standards*. The standards incorporated by reference are available for inspection at:

(i) National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

(ii) U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Hearings and Dockets, Forrestal Building, 1000 Independence Ave, SW, Washington, DC 20585.

(b)(1) American National Standards Institute (ANSI). The ANSI standards listed in this paragraph may be obtained from the American National Standards Institute, 25 W. 43rd Street, 4th Floor, New York, NY 10036, (212) 642-4900.

1. ANSI C78.1-1991, "for Fluorescent Lamps—Rapid-Start Types—Dimensional and Electrical Characteristics"
2. ANSI C78.2-1991, "for Fluorescent Lamps—Preheat-Start Types—Dimensional and Electrical Characteristics of Fluorescent Lamps"
3. ANSI C78.3-1991, "for Fluorescent Lamps—Instant-Start and Cold-Cathode Types—Dimensional and Electrical Characteristics"
4. ANSI C78.375-1991, "for Fluorescent Lamps—Guide for Electrical Measurements"
5. ANSI C82.3-1983 "for Reference Ballasts for Fluorescent Lamps"
6. ANSI C79.1-1994, "Nomenclature for Glass Bulbs—Intended for Use with Electric Lamps"
7. ANSI C78.21-1989, "Incandescent Lamps—PAR and R Shapes"
8. ANSI Standard Z21.56-1994, "Gas-Fired Pool Heaters," section 2.9.

(2) Illuminating Engineering Society of North America (IESNA). The IESNA standards listed in this paragraph may be obtained from the Illuminating Engineering Society of North America, 120 Wall Street, Floor 17, New York, NY 10005-4001, (212) 248-5000.

1. Illuminating Engineering Society LM-9-88, "IES Approved Method for the Electrical and Photometric Measurements of Fluorescent Lamps"
2. Illuminating Engineering Society of North America LM-16-1993, "IESNA Practical Guide to Colorimetry of Light Sources"
3. Illuminating Engineering Society of North America LM-20-1994, "IESNA Approved Method for Photometric Testing of Reflector-Type Lamps"
4. Illuminating Engineering Society of North America LM-45-91, "IES Approved Method

for Electrical and Photometric Measurements of General Service Incandescent Filament Lamps"

5. Illuminating Engineering Society of North America LM-58-1994, "IESNA Guide to Spectroradiometric Measurements"
6. Illuminating Engineering Society of North America LM-66-1991, "IES Approved Method for the Electrical and Photometric Measurements of Single-Ended Compact Fluorescent Lamps"
7. *Illuminating Engineering Society of North America Lighting Handbook, Reference and Application*, 8th Edition, 1993, Chapter 6, Light Sources

(3) International Commission on Illumination (CIE). The CIE standards listed in this paragraph may be obtained from the International Commission on Illumination, CIE Bureau Central, Kegelgasse 27, A-1030, Vienna, Austria. CIE publications are also available from TLA Lighting Consultants, 7 Pond Street, Salem, MA 10970, (508) 745-6870.

1. International Commission on Illumination (CIE) Publication No. 13.2 1974, corrected reprint 1993, "Method of Measuring and Specifying Color Rendering Properties of Light Sources," ISBN 3 900 734 39 9

(4) International Electrotechnical Commission. Copies of the International Electrotechnical Commission Publications can be obtained from the American National Standards Institute, 11 West 42nd Street, New York, New York 10036, (212) 642-4936.

1. IEC 705, "Methods for Measuring the Performance of Microwave Ovens for Household and Similar Purposes," Section 4, Methods of Measurement, Paragraph 13 "Electrical Power Input Measurement," and Paragraph 14 "Efficiency" (1988).
2. IEC 705, Amendment 2, "Methods for Measuring the Performance of Microwave Ovens for Household and Similar Purposes," Section 4, Methods of Measurement, Paragraph 12 "Microwave Power Output Measurement" (1993).

(5) American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., Publication Sales, 1791 Tullie Circle, NE, Atlanta, GA 30329, (1-800-5-ASHRAE).

1. American National Standards Institute/American Society of Heating, Refrigerating, and Air-Conditioning Engineers Standard 103-1993, "Methods of Testing for Annual Fuel Utilization Efficiency of Residential Central Furnaces and Boilers," (with Errata of October 24, 1996) except for

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sections 3.0, 7.2.2.5, 8.6.1.1, 9.1.2.2, 9.5.1.1, 9.5.1.2.1, 9.5.1.2.2, 9.5.2.1, 9.7.1, 10.0, 11.2.12, 11.3.12, 11.4.12, 11.5.12 and appendices B and C.

2. American Society of Heating, Refrigerating, and Air-Conditioning Engineers Standard 23-1993, "Methods of Testing for Rating Positive Displacement Refrigerant Compressors and Condensing Units."
3. American Society of Heating, Refrigerating, and Air-Conditioning Engineers Standard 37-1988, "Methods of Testing for Rating Unitary Air-Conditioning and Heat Pump Equipment."
4. American Society of Heating, Refrigerating, and Air-Conditioning Engineers Standard 41.1-1986 (Reaffirmed 2001), "Standard Method for Temperature Measurement."
5. American Society of Heating, Refrigerating, and Air-Conditioning Engineers Standard 41.2-1987 (Reaffirmed 1992), "Standard Methods for Laboratory Airflow Measurement."
6. American Society of Heating, Refrigerating, and Air-Conditioning Engineers Standard 41.6-1994 (Reaffirmed 2001), "Standard Method for Measurement of Moist Air Properties."
7. American Society of Heating, Refrigerating, and Air-Conditioning Engineers Standard 41.9-2000, "Calorimeter Test Methods for Mass Flow Measurements of Volatile Refrigerants."
8. American Society of Heating, Refrigerating, and Air-Conditioning Engineers Standard 116-1995, "Methods of Testing for Rating for Seasonal Efficiency of Unitary Air Conditioners and Heat Pumps."
9. American Society of Heating, Refrigerating, and Air-Conditioning Engineers/Air Movement and Control Association International, Inc. Standard 51-1999/210-1999, "Laboratory Methods of Testing Fans for Aerodynamic Performance Rating."

(6) American Society of Mechanical Engineers (ASME). The ASME standards listed in this paragraph may be obtained from the American Society of Mechanical Engineers, Service Center, 22 Law Drive, P.O. Box 2900, Fairfield, NJ 07007.

1. ASME/ANSI Standard A112.18.1M-1996, "Plumbing Fixture Fittings."
2. ASME/ANSI Standard A112.19.6-1995, "Hydraulic Requirements for Water Closets and Urinals."

(7) Association of Home Appliance Manufacturers, 1111 19th Street, NW., Suite 402, Washington, DC 20036, (202) 872-5955, "American National Standard, Household Electric Dishwashers, ANSI/

AHAM DW-1-1992," hereinafter referred to as ANSI/AHAM DW-1.

(8) Air-Conditioning and Refrigeration Institute (ARI), 4100 North Fairfax Drive, Suite 200, Arlington, Virginia 22203-1629, (703) 524-8800, ARI Standard 210/240-2003, "Unitary Air-Conditioning and Air-Source Heat Pump Equipment."

(c) *Reference Standards*—(1) *General*. The standards listed in this paragraph are referred to in the DOE test procedures and elsewhere in 10 CFR part 430 but are not incorporated by reference. These sources are given here for information and guidance.

(2) *List of References*.

1. National Voluntary Laboratory Accreditation Program Handbook 150-01, "Energy Efficient Lighting Products, Lamps and Luminaires, August 1993." National Voluntary Laboratory Accreditation Program, NIST, Gaithersburg, MD.
2. "Illuminating Engineering Society Lighting Handbook," 8th Edition, New York, NY 1993.

[59 FR 49474, Sept. 28, 1994, as amended at 62 FR 29239, May 29, 1997; 62 FR 51981, Oct. 3, 1997; 63 FR 13316, Mar. 18, 1998; 66 FR 65095, Dec. 18, 2001; 68 FR 51899, Aug. 29, 2003; 69 FR 18803, Apr. 9, 2004; 70 FR 59134, Oct. 11, 2005]

EFFECTIVE DATE NOTE: At 71 FR 71366, Dec. 8, 2006, § 430.22 was amended by adding paragraphs (b)(9), (b)(10), and (b)(11), effective Jan. 8, 2007. For the convenience of the user, the added text is set forth as follows:

§ 430.22 Reference Sources.

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(b) * * *

(9) Environmental Protection Agency (EPA), Ariel Rios Building, 1200 Pennsylvania Avenue, NW., Washington, DC 20460, (202) 272-0167.

1. "ENERGY STAR Testing Facility Guidance Manual: Building a Testing Facility and Performing the Solid State Test Method for ENERGY STAR Qualified Ceiling Fans," Version 1.1, December 9, 2002.

2. "ENERGY STAR Program Requirements for Residential Light Fixtures," Version 4.0, issued January 10, 2005.

3. "ENERGY STAR Program Requirements for Dehumidifiers," effective January 1, 2001.

4. "Test Methodology for Determining the Energy Performance of Battery Charging Systems," December 2005.

(10) U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Forrestal Building, Room 1J-018 (Resource

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Room of the Building Technologies Program), 1000 Independence Avenue, SW., Washington, DC 20585–0121, (202) 586–9127.

1. “ENERGY STAR Program Requirements for [Compact Fluorescent Lamps] CFLs,” Version 3.0, issued October 30, 2003.

2. “ENERGY STAR Program Requirements for [Compact Fluorescent Lamps] CFLs,” Version August 9, 2001.

(11) California Energy Commission, 1516 Ninth Street, MS–25, Sacramento, CA 95814, (916) 654–4091.

1. “Test Method for Calculating the Energy Efficiency of Single-Voltage External Ac-Dc and Ac-Ac Power Supplies,” August 11, 2004.

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§ 430.23 Test procedure for measures of energy consumption.

(a) *Refrigerators and refrigerator-freezers.* (1) The estimated annual operating cost for electric refrigerators and electric refrigerator-freezers without an anti-sweat heater switch shall be the product of the following three factors: (i) The representative average-use cycle of 365 cycles per year, (ii) the average per-cycle energy consumption for the standard cycle in kilowatt-hours per cycle, determined according to 6.2 (6.3.6 for externally vented units) of appendix A1 of this subpart, and (iii) the representative average unit cost of electricity in dollars per kilowatt-hour as provided by the Secretary, the resulting product then being rounded off to the nearest dollar per year.

(2) The estimated annual operating cost for electric refrigerators and electric refrigerator-freezers with an anti-sweat heater switch shall be the product of the following three factors: (i) The representative average-use cycle of 365 cycles per year, (ii) half the sum of the average per-cycle energy consumption for the standard cycle and the average per-cycle energy consumption for a test cycle type with the anti-sweat heater switch in the position set at the factory just prior to shipping, each in kilowatt-hours per cycle, determined according to 6.2 (6.3.6 for externally vented units) of appendix A1 of this subpart, and (iii) the representative average unit cost of electricity in dollars per kilowatt-hour as provided by the Secretary, the resulting product then

being rounded off to the nearest dollar per year.

(3) The estimated annual operating cost for any other specified cycle type for electric refrigerators and electric refrigerator-freezers shall be the product of the following three factors: (i) The representative average-use cycle of 365 cycles per year, (ii) the average per-cycle energy consumption for the specified cycle type, determined according to 6.2 (6.3.6 for externally vented units) of appendix A1 to this subpart, and (iii) the representative average unit cost of electricity in dollars per kilowatt-hour as provided by the Secretary, the resulting product then being rounded off to the nearest dollar per year.

(4) The energy factor for electric refrigerators and electric refrigerator-freezers, expressed in cubic feet per kilowatt-hour per cycle, shall be—

(i) For electric refrigerators and electric refrigerator-freezers not having an anti-sweat heater switch, the quotient of (A) the adjusted total volume in cubic feet, determined according to 6.1 of appendix A1 of this subpart, divided by (B) the average per-cycle energy consumption for the standard cycle in kilowatt-hours per cycle, determined according to 6.2 (6.3.6 for externally vented units) of appendix A1 of this subpart, the resulting quotient then being rounded off to the second decimal place, and

(ii) For electric refrigerators and electric refrigerator-freezers having an anti-sweat heater switch, the quotient of (A) the adjusted total volume in cubic feet, determined according to 6.1 of appendix A1 of this subpart, divided by (B) half the sum of the average per-cycle energy consumption for the standard cycle and the average per-cycle energy consumption for a test cycle type with the anti-sweat heater switch in the position set at the factory just prior to shipping, each in kilowatt-hours per cycle, determined according to 6.2 (6.3.6 for externally vented units) of appendix A1 of this subpart, the resulting quotient then being rounded off to the second decimal place.

(5) The annual energy use of electric refrigerators and electric refrigerator-freezers equals the representative average use cycle of 365 cycles per year